

WHAT IS CLAIMED IS:

1. A handheld electronic device, comprising:
 - a housing having an opening;
 - a touch panel mounted in the opening of the housing, the touch panel and housing forming a substantially waterproof enclosure;
 - a processor within the enclosure;
 - a memory within the enclosure and connected to the processor, the memory having navigation related data;
 - a navigation component within the enclosure, the navigation component adapted to determine a location of the device.
2. The handheld electronic device of claim 1, wherein the navigational component includes a GPS receiver.
3. The handheld electronic device of claim 2, wherein the navigation component further includes a dead reckoning functionality.
4. The handheld electronic device of claim 1, wherein the device further includes a wireless communications component within the substantially waterproof enclosure.
5. The handheld electronic device of claim 4, wherein the wireless communications component can transmit navigation data of the handheld electronic device.
6. The handheld electronic device of claim 1, wherein the device further includes a personal digital assistant (PDA) functionality within the substantially waterproof enclosure.

7. A portable electronic device comprising:
 - a housing;
 - a processor contained within the housing;
 - a memory contained within the housing and connected to the processor, the memory having navigation related data;
 - a touchscreen in communication with the processor for displaying the navigational related data, the touchscreen attached to the housing; and
 - a dead-reckoning component within the housing, the dead-reckoning component to locate a geographical position of the portable electronic device.
8. The portable electronic device of claim 7, wherein the device further includes a patch antenna within the housing.
9. The portable electronic device of claim 8, wherein the patch antenna is located on a top surface of the display.
10. The portable electronic device of claim 7, further including a GPS component having a GPS patch antenna, a GPS receiver and a GPS positioning functionality.
11. The portable electronic device of claim 10, wherein the dead-reckoning component supplements the geographical position determined by the GPS component.
12. The portable electronic device of claim 7, wherein the memory further includes software adapted to perform route calculations to navigate to a desired location.
13. The portable electronic device of claim 7, wherein the touch panel and housing form a substantially waterproof enclosure.

14. The portable electronic device of claim 7, wherein the dead reckoning component includes a rate gyro.
15. The portable electronic device of claim 14, wherein the dead reckoning component includes a set of software instructions for providing supplemental position information.
16. The portable electronic device of claim 7, wherein the device further includes a wireless communications component within the housing.
17. The portable electronic device of claim 16, wherein the wireless communications component can transmit navigation data of the portable electronic device.
18. A handheld electronic device comprising:
a housing having an opening;
a touch panel display mounted in and viewable through the opening of the housing, the touch panel display and housing forming a substantially waterproof enclosure;
a processor within the enclosure, the processor connected to the touch panel display;
a memory contained within the enclosure and connected to the processor, the memory having navigation related data and a personal digital assistant (PDA) functionality; and
a navigation component located within the enclosure to determine a position of the device.
19. The handheld electronic device of claim 18, wherein the navigation component further includes a GPS having a GPS patch antenna, a GPS receiver and a GPS positioning functionality.

20. The handheld electronic device of claim 19, wherein the navigation component further includes a dead reckoning functionality adapted to supplement the GPS positioning functionality.
21. The handheld electronic device of claim 19, wherein the GPS patch antenna is located on a top surface of the display.
22. The handheld electronic device of claim 18, wherein the memory includes navigation related data and software adapted to perform route calculations on the processor.
23. The handheld electronic device of claim 18, wherein the device further includes a wireless communications component within the enclosure.
24. The handheld electronic device of claim 23, wherein the wireless communications component can transmit navigation data of the handheld electronic device.
25. A handheld electronic device comprising:
a housing having an opening;
a touch panel display mounted in and viewable through the opening of the housing, the touch panel display and housing forming a substantially waterproof enclosure;
a processor within the enclosure, the processor connected to the touch panel display;
a memory contained within the enclosure and connected to the processor, the memory having navigation related data;
a wireless communications component within the enclosure; and
a navigation component located within the enclosure to determine a position of the device.

26. The handheld electronic device of claim 25, wherein the navigation component further includes a GPS having a GPS patch antenna, a GPS receiver and a GPS positioning functionality.

27. The handheld electronic device of claim 26, wherein the navigation component further includes a dead reckoning functionality adapted to supplement the GPS positioning functionality.

28. The handheld electronic device of claim 26, wherein the GPS patch antenna is located on a top surface of the touch panel display.

29. The handheld electronic device of claim 26, wherein the device further includes a rate gyro within the waterproof enclosure, wherein the rate gyro is adapted to supplement the GPS when the GPS is interrupted, degraded, or otherwise unavailable.

30. The handheld electronic device of claim 25, wherein the touch panel display includes a layer of rigid material and a flexible substrate layer positioned near the layer of rigid material, and wherein the device further includes a mounting member circumscribing the opening in the housing, the mounting member including a pocket for holding an adhesive and applying the adhesive about a periphery of the touch panel display.

31. The handheld electronic device of claim 30, wherein the adhesive is a flexible, waterproof adhesive.

32. The handheld electronic device of claim 25, wherein the memory is adapted to store navigation related data, the navigation related data including cartographic data including a number of locations and data indicative of thoroughfares of a plurality of types connecting certain ones of the locations, and wherein the memory further includes software adapted to perform route calculations on the processor.

33. The handheld electronic device of claim 25, wherein the wireless communications component can transmit navigation data of the handheld electronic device.